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SERIAL NO. 10/792,319  
JUTTU, SMITH

OCT 24 2006

PATENT APPLICATION  
STC-03-0009

LISTING OF CLAIMS IN THE APPLICATION

1 (Currently amended). A process for the aromatization of hydrocarbons comprising:

a) contacting an alkane containing 2 to 6 carbon atoms per molecule with a catalyst consisting essentially of a zeolite having gallium and silicon in the framework on which platinum has been deposited consisting essentially of platinum deposited on a zeolite consisting essentially of gallium and silicon in the framework and

wherein the catalyst has been treated first with hydrogen, second with a sulfur compound, and then again with hydrogen; and

b) recovering an aromatic product.

2 (Previously presented). The process of claim 1 wherein the zeolite has a silicon to gallium atomic ratio (Si/Ga) greater than 5.

3 (Currently amended). The process of claim 2 wherein the silicon to gallium atomic ratio in the range of from 5-400.

4 (Previously presented). The process of claim 3 wherein the silicon to gallium atomic ratio in the range of from 25-250.

5 (Currently amended). The process of claim 1 wherein platinum is present at 0.86wt% of the final catalyst.

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6. Canceled

7. Canceled

8 (original). The process of claim 1 wherein the contact between the alkane and the catalyst is at a space velocity in the range between 0.1 and 100 h<sup>-1</sup>.

9 (original). The process of claim 8 wherein the contact between the alkane and the catalyst is at a temperature in the range between 200 and 600°C.

10 (original). The process of claim 9 wherein the contact between the alkane and the catalyst is at a pressure in the range between 5 and 215 psia.

11 (original). The process of claim 1 wherein the zeolite has a MFI, FAU, TON, MFL, VPI, MEL, AEL, AFI, MWW or MOR structure.

12 (original). The process of claim 11 wherein the zeolite has a MFI structure.

13 (original). The process of claim 12 wherein the zeolite has a ZSM-5 MFI structure.

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14. Canceled

15 (withdrawn). A process for synthesizing a platinum-gallium zeolite catalyst comprising:

- a) preparing a gallium zeolite containing silicon and gallium;
- b) depositing platinum on the zeolite; and
- c) calcining the zeolite.

16 (withdrawn). The process of claim 15 wherein the platinum is deposited by cationic exchange.

17 (withdrawn). The process of claim 15 wherein the platinum is deposited by impregnation.

18 (withdrawn). The process of claim 15 wherein the zeolite has an MFI, FAU, TON, MFL, VPI, MEL, AEL, AFI, MWW or MOR structure.

19 (withdrawn). The process of claim 18 wherein the zeolite has a MFI structure.

20 (withdrawn). The process of claim 19 wherein the zeolite has a ZSM-5 MFI structure.

21 (withdrawn). The process of claim 15 wherein the catalyst is subsequently treated first with hydrogen, second with a sulfur compound; and then again with hydrogen.

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22 (withdrawn). A platinum gallium zeolite catalyst for aromatization of hydrocarbons comprising:

- a) a gallium-silicon zeolite; and
- b) platinum deposited on the gallium-silicon zeolite.

23 (withdrawn). The catalyst of claim 22 wherein the silicon to gallium atomic ratio is greater than 5.

24 (withdrawn). The catalyst of claim 23 wherein the silicon to gallium atomic ratio in the range of from 5-400.

25 (withdrawn). The catalyst of claim 24 wherein the silicon to gallium atomic ratio in the range of from 25-250.

26 (withdrawn). The catalyst of claim 22 wherein platinum is present in the range of from 0.05% to 3%.

27 (withdrawn). The catalyst of claim 26 wherein platinum is present in the range of from 0.2% to 2%.

28 (withdrawn). The catalyst of claim 27 wherein platinum is present in the range of from 0.2% to 1.5%.

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29 (withdrawn). The catalyst of claim 22 wherein the pore size of the zeolite is in the range from 2 to 200 angstroms.

30 (withdrawn). The catalyst of claim 29 wherein the pore size of the zeolite is in the range from 2 to 100 angstroms.

31 (withdrawn). The catalyst of claim 30 wherein the pore size of the zeolite is in the range from 2 to 20 angstroms.

32 (withdrawn). The catalyst of claim 22 wherein the zeolite has a MFI, FAU, TON, MFL, VPI, MEL, AEL, AFI, MWW or MOR structure.

33 (withdrawn). The catalyst of claim 22 wherein the zeolite has a MFI structure.

34 (withdrawn). The catalyst of claim 22 wherein the zeolite has a ZSM-5 MFI structure.

35 (withdrawn). The catalyst of claim 22 wherein the catalyst is represented by the formula



where  $x=0.1\text{-}25$ ;  $y=60\text{-}100$ ; and  $z=0.1\text{-}10$ .

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36 (withdrawn). The catalyst of claim 22 wherein its X-ray diffraction pattern has peaks at 11.19, 9.98, 9.77, 6.37, 5.99, 3.86, 3.82, 3.76, 3.72 and 3.65 angstroms.

37. Canceled